



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D6103-003
Job Sheet 178193



5079918

Part No: D6103-003

Job Qty: 30 ea

Part Name: Round Billet, Aluminum



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 5/28/18

Job Tracking No:

Due Date: 6/25/18

Created By: Chantal Lavoie

Type: Stock

Description:

Note: DWG REV B

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Purchasing	30 pcs		6/25/18	0.00	0.00	Purchasing		JUN 11 2018
110	Packaging	30 pcs		6/25/18	0.00	0.00	Packaging2		JUN 11 2018
120	QC	30 pcs		6/25/18	0.00	0.00	QC6		JUN 11 2018
130	Packaging	30 pcs		6/25/18	0.00	0.00	Packaging3-2		JUN 11 2018
140	QC21-SA	30 Ea		6/25/18	0.00	0.00	QC21		JUN 21 2018

Part Op 100 - Issue P/O: 40067 a) Description: Alluminum round billet b) Ø3.500" x 12.500" long c) Tolerance on all Descriptions: dimensions are +0.030"/-0.000" d) Material: 7075-T7351 (QQ-A-225/9) Material certification required

110 - Ensure material certification is attached

130 - LOCATION: MAT043

MAY 31 2018

DAS
11
9-89
X30

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D6103-003P	Round Alum Billet	30 pcs (1 ea)	100-Purchasing	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Purchasing	D6103-003P	30	0	0

Part Specifications

Specifications could not be found.

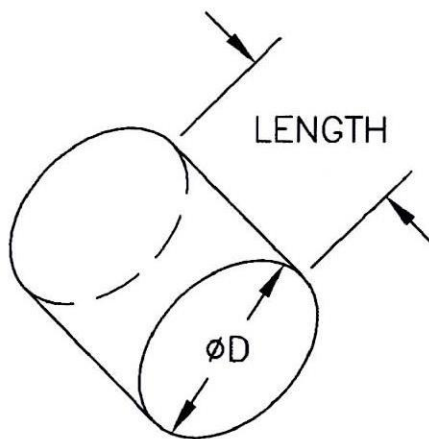
Plex 5/28/18 3:12 PM dart.lavoie.chantal



DESIGN P41	DRAWN BY P41	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D6103	Rev. B SHEET 1 OF 1
DATE 06.01.31		TITLE ROUND BILLET, ALUMINUM	SCALE NTS
A	01.04.10	NEW ISSUE	
B	06.01.31	ADD D6103-003	

SPECIFICATION CONTROL DRAWING

RELEASED
06.02.07



PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, DIAMETER x LENGTH (+0.030/-0.000) AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

Part No.	Alloy	D (Diameter)	Length
D6103-001	7075-T6/T651 (QQ-A-200/11 OR QQ-A-225/9)	Ø3.250	12.50
D6103-003	7075-T7351 (QQ-A-225/9)	Ø3.500	12.50

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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: D6103-003
 DATE: JUN 11 2018

PO / BATCH NO.: 040067/5079887

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 30 PCS
 QUANTITY INSPECTED: 30 PCS
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 3.500
 THICKNESS RECEIVED: 3.500
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y ☒ N ☒	
CORRECT FINISH	Y ☒ N ☒	
CORROSION	Y ☒ N ☒	
CORRECT GRAIN DIRECTION	Y ☒ N ☒	
CORRECT MATERIAL PER M-DRAWING	Y ☒ N ☒	QQA-225/9
CORRECT THICKNESS	Y ☒ N ☒	
PHOTO REQUIRED	Y ☒ N ☒	
CORRECT REF # TO LINK CERT	Y ☒ N ☒	Wet # 20211689 - MA 20180110
CORRECT MATERIAL IDENTIFICATION	Y ☒ N ☒	
CORRECT M# ON THE MATERIAL	Y ☒ N ☒	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y ☒ N ☒	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y ☒ N ☒	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u> DATE: <u>11 JUN 11 2018</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

**Castle Metals®**

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 1 of 1

Shipment No:3617638

Ship From: A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		Sold To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		Ship To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN		Deliver To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
Date Shipped 08-JUN-18	F.O.B. ORIGIN	Freight Terms Prepaid		Carrier MANITOULIN		BOL No 3617638-2	

Shipment Details	Final Destination Branch - TOR
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Order No	Line No	Item No	Description				
5157979	2	8808.MO	3.5000..RD.7075.T7351.ALUMINUM.CF.144.0000 CUT TO 12.5 IN (+ .1250/- .0000 IN) - BAND SAW CUTTING SPECIFICATIONS: AMS-QQ-A-225/9				
Purchase Order No		Part Number	Ordered Qty		Invoice Qty		
40067		YOUR ITEM NUMBER: D6103-003	5.00 PCS		5.00 PCS		
Details		ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #'S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS					
Delivery No.	Mill/Source	Heat Number	Mech Id	PCS	Width (IN)	Length (IN)	Shipped Qty(LBS)
121867095	KAISER ALUMINUM			5			60.6269

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.							
Reviewed by Authorized Castle Metals Representative:			Date:	Name: JUN 08 2018			

Date Printed: 08-JUN-2018 02:49:45 PM



KAISER ALUMINUM FABRICATED PRODUCTS

Tennalum
309 Industrial Drive
Jackson, TN 38301
731-423-2811



CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

CUSTOMER PO NUMBER: 398656-1		CUSTOMER PART NUMBER 8808		PRODUCT DESCRIPTION Cold Finished Round	
KAISER ORDER NUMBER: 713468	LINE ITEM: 1	SHIP DATE 10/10/2016	ALLOY 7075	TEMPER T7351	
WEIGHT SHIPPED: 2247 lbs.	QUANTITY: 16 pcs.	B/L NUMBER 40181	DIAM/DAP/PHKNS 3.500 in.	WIDTH 0.000 in.	LENGTH 144.0 in.
SHIP TO: A M Castle & Co 3800 Enterprise Drive Janesville, WI 53546 USA			SOLD TO A M Castle & Co 1420 Kensington Road Suite 220 Oak Brook, IL 60523 USA		

Test Code: 1000 AC

Actual Physical Properties

Lot Number	LONG. UTS ksi	LONG. YTS ksi	LONG. ELONG. %	COND % IACS
20211689	71.6	60.5	16.5	38.4

Chemical Composition, WT. % (Aluminum Remainder)

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	OTHERS EACH	OTHERS TOTAL	Lot
Actual	0.12	0.24	1.5	0.04	2.8	0.19	5.9	0.03			20211689
Max	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.15	
Min			1.2		2.1	0.18	5.1				

Specifications

Standard: ISO 9001, ASTM B211-12, AMS 4124E, AMS-QQ-A-225/9A Non-Standard: A97075_11_R15

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC ("Kaiser") hereby certifies that the metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms and conditions of sale. Test reports are on file, subject to examination.

John Rennekamp, Quality Manager

John Rennekamp

Plant Serial: 234372

Kaiser Order Number: 713468

Line Item: 1

KAISER ALUMINUM

FABRICATED PRODUCTS

Tennalum
309 Industrial Drive
Jackson, TN 38301
731-423-2811



CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

Miscellaneous Notes

Made in USA

This material was melted and manufactured in the USA. Mercury is not a normal contaminant in aluminum alloys. Neither mercury nor any of its compounds were utilized by Kaiser Aluminum in the manufacture of this material. AS9100C:2009 The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

This material meets the requirements of (cold finished) T73 temper and QQ-A-225/9E (CANCELLED). NAFTA - YES. Material complies with FAR BAA (FAR 52.225-1, Buy American Act-Supplies), DFARS BAA (DFARS 252.225-7001 Buy American Act & Bal of Payments Prog), and FAR TAA (FAR 52.225-5 Trade Agreements). No weld repair. This material is RoHS 2 - 2011/65/EU compliant.

CERTIFICATION

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John Rennekamp, Quality Manager

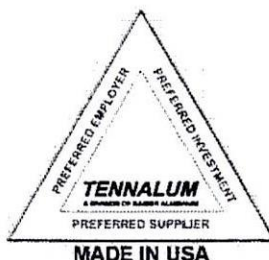
Plant Serial: 234372

Kaiser Order Number: 713468

Line Item: 1

KAISER ALUMINUM FABRICATED PRODUCTS

Tennalum
309 Industrial Drive
Jackson, TN 38301
731-423-2811



CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

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KAISER ORDER NUMBER: 713468	LINE ITEM: 1	SHIP DATE: 10/10/2016	ALLOY: 7075	TEMPER: T7351	
WEIGHT SHIPPED: 2247 lbs.	QUANTITY: 16 pcs.	B/L NUMBER: 40181	DIAM/DAF/THKNS: 3.500 in.	WIDTH: 0.000 in.	LENGTH: 144.0 in.
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John Rennekamp

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Kaiser Order Number: 713468

Line Item: 1

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John Rennekamp, Quality Manager

Plant Serial#: 234372

Kaiser Order Number: 713468

Line Item: 1

**Castle Metals®**

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 1 of 1

Shipment No:3617638

Ship From: A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		Sold To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		Ship To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN		Deliver To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
Date Shipped 08-JUN-18	F.O.B. ORIGIN	Freight Terms Prepaid		Carrier MANITOULIN		BOL No 3617638-2	

Shipment Details			Final Destination Branch - TOR				
Order No	Line No	Item No	Description				
5157979	3	8808.MO	3.5000..RD.7075.T7351.ALUMINUM.CF.144.0000 CUT TO 12.5 IN (+ .1250/- .0000 IN) - BAND SAW CUTTING SPECIFICATIONS: AMS-QQ-A-225/9				
Purchase Order No		Part Number	Ordered Qty	Invoice Qty			
40067		YOUR ITEM NUMBER: D6103-003	25.00 PCS	25.00 PCS			
Details		ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #'S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS					
Delivery No.	Mill/Source	Heat Number	Mech Id	PCS	Width (IN)	Length (IN)	Shipped Qty(LBS)
121867573	ARCONIC/INC			25			303.1344

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.				Reviewed by Authorized Castle Metals Representative:				Date:	Name:
									JUN 08 2018

Date Printed: 08-JUN-2018 02:49:45 PM

CASTLE METALS

HEAT NUMBER

MA20180110

MECHANICAL ID

ITEM CODE

8808

PO NUMBER

455845

RECEIPT DATE

2-9-18

SUPPLIER

Arconic

SPECIFICATION

LCS

COMMENTS

APPROVED

ars

Certified Inspection Report

02/07/18
08:55:38

Arconic Inc.
ARCONIC FORGINGS AND EXTRUSIONS
45 County Route 42, Massena, NY 13662



Customer Castle A M & Co	Customer P.O. No. 455845	Customer Part No. (8808)	Arconic Order No. MMC-C5812- -001	Govt. Contract No.
Ship To Castle A M & Co 3800 Enterprise Drive Janesville, WI 53546		We hereby certify that the material covered in this report has been inspected in accordance with, and has been found to meet the applicable requirements described herein, including any specifications forming a part of the description, or as previously agreed to with customer and that samples representative of the material met the composition limits and have the mechanical properties shown on the face of this sheet. Manufactured under a quality management system registered to ISO/AS9100. Melted and manufactured in the USA.		
 Joseph M. Viemo, Quality Manager				

Date Shipped 02/06/18	Weight Shipped 1.966 lbs	Product CFRB-CF ROD	Specific Length BOL 000165522
Alloy - Temper 7075-T7351	Size 3.50000 IN	Shape DIA	Config 12 FT
		QRR	

Specifications:

A97075-11 Rev 15
AMS4124E
ASTM B211-12E1
Material conforms to T73 reqts
Minimum mechanical properties to apply:
68 KSI Tensile Strength
56 KSI Yield Strength
10% Elongation
Q-A-2250E (Except Size)
AMS-QQ-A-225/9A (Except Size)
A97075-11 Rev 16

TEST REQUIREMENTS	Test	Test	Test	Test	Test	Test	Test	Test	Test	Test
	U.T.S.	T.Y.S.	%Elong	Cond						
Max:		67.9								
Min:	68.0	56.0	10.0	38.0						

Test Results	Test	Test	Test	Test	Test	Test	Test	Test	Test	Test
Lot / Work Order	U.T.S.	T.Y.S.	%Elong	Cond						
MA20180110										
Max:	72.8	62.2	15.0	41.4						
Min:	72.8	62.2	15.0	41.4						

TEST ABBREVIATIONS

U.T.S. Ultimate Tensile Strength KSI
Cond Conductivity % IACS

T.Y.S. Tensile Yield Strength KSI .2% offset

%Elong Elongation % in 2"

Aluminum Association Chemical Composition Limits (in Weight %)

ALLOY	MAX	%SI	%FE	%CU	%MN	%MG	%CR	%ZN	%TI	%Others	%Others	%AL			
7075	MIN	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.15	Rem			
				1.2		2.1	0.18	5.1		Each	Total				

Actual Started Chemistry

LOT/WORK ORDER	MAX	%SI	%FE	%CU	%MN	%MG	%CR	%ZN	%TI	%OE	%OT	%AL			
MA20180110	MIN	0.07	0.14	1.6	0.02	2.5	0.20	5.7	0.03	LT 0.05	LT 0.15	Rem			
		0.06	0.14	1.6	0.01	2.5	0.20	5.7	0.03						

Certified Inspection Report

02/07/18
08:55:38

Arconic Inc.
ARCONIC FORGINGS AND EXTRUSIONS
45 County Route 42, Massena, NY 13662



Customer	Customer P.O. No.	Customer Part No.	Arconic Order No.	Govt. Contract No.
Castle A M & Co	455845	(8808)	MMC-C5812- -001	

NOTES:

Ingot Source: Massena
Material compliant with DFARS 252.225-7001 (Buy American Act)
Mercury is not a normal contaminant in aluminum alloys and neither it nor any of its compounds are used in the manufacture of our product.
This alloy meets the requirements of EU 2011/65/EC (RoHS) and EU 2000/53/EC for lead, mercury, cadmium and hexavalent chromium.

THESE ITEMS ARE CONTROLLED BY THE U.S. GOVERNMENT AND AUTHORIZED FOR EXPORT ONLY TO THE COUNTRY OF ULTIMATE DESTINATION FOR USE BY THE ULTIMATE CONSIGNEE OR END-USER(S) HEREIN IDENTIFIED. THEY MAY NOT BE RESOLD, TRANSFERRED, OR OTHERWISE DISPOSED OF, TO ANY OTHER COUNTRY OR TO ANY PERSON OTHER THAN THE AUTHORIZED ULTIMATE CONSIGNEE OR END-USER(S), EITHER IN THEIR ORIGINAL FORM OR AFTER BEING INCORPORATED INTO OTHER ITEMS, WITHOUT FIRST OBTAINING APPROVAL FROM THE U.S. GOVERNMENT OR AS OTHERWISE AUTHORIZED BY U.S. LAW AND REGULATIONS.

MATERIAL IS OF U.S.A. ORIGIN AND WE HEREBY CERTIFY THE PRICES TO BE TRUE AND CORRECT.